

Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 12, 14-15 and 23 are pending in the application, with claim 12 being the independent claim. Claim 15 has been withdrawn from consideration, and is sought to be reinserted into the application upon allowance of generic, linking claim 12. Claims 13 and 16-22 are sought to be canceled without prejudice to or disclaimer of the subject matter therein. Claims 12 and 14 are sought to be amended to include the features of previously pending claim 13. These changes are believed to introduce no new matter, and their entry is respectfully requested.

It is noted that this application is related to a number of other patent(s) and application(s). The claims presented in this application should be interpreted solely based on the file history of this application, not the file history of any related patent(s) or application(s).

With respect to the present application, Applicant hereby rescinds any disclaimer of claim scope made in the parent application or any predecessor or related application. The Examiner is advised that any previous disclaimer of claim scope, if any in the parent application or any predecessor or related application, and the alleged prior art that it was made to allegedly avoid, may need to be revisited. Also, no disclaimer of claim scope, if any, in the present application should be read back into any parent, predecessor or related application.

Based on the above amendment and the following remarks, Applicant respectfully requests that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Rejections under 35 U.S.C. § 112

Claims 12-14 and 23 were rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Examiner states, “Re claim 12, line 5, ‘without substantially expanding the wafer’ is indefinite in scope and meaning as to how much of a measurable dimension of expansion on the wafer is considered as ‘without substantially expanding.’” (Office Action, p. 2). Applicant respectfully traverses this rejection.

According to M.P.E.P. § 2173.05(b), “[t]he fact that claim language, including terms of degree, may not be precise, does not automatically render the claim indefinite under 35 U.S.C. 112, second paragraph. *Seattle Box Co., v. Industrial Crating & Packing, Inc.*, 731 F.2d 818, 221 USPQ 568 (Fed. Cir. 1984). Acceptability of the claim language depends on whether one of ordinary skill in the art would understand what is claimed, in light of the specification.” Further, as stated in M.P.E.P. § 2173.05(a)(II), “[i]f the claims, read in light of the specification, reasonably apprise those skilled in the art both of the utilization and scope of the invention, and if the language is as precise as the subject matter permits, the statute (35 U.S.C. 112, second paragraph) demands no more. *Shatterproof Glass Corp. v. Libbey Owens Ford Co.*, 758 F.2d 613, 225 USPQ 634 (Fed. Cir. 1985).” For example, as described in M.P.E.P. § 2173.05(b), the term “to substantially increase” was found to be “definite in view of the general guidelines

contained in the specification. *In re Mattison*, 509 F.2d 563, 184 USPQ 484 (CCPA 1975).” Further, the court held that the term “substantially equal” was “definite because one of ordinary skill in the art would know what was meant by ‘substantially equal.’” *Andrew Corp. v. Gabriel Electronics*, 847 F.2d 819, 6 USPQ2d 2010 (Fed. Cir. 1988).”

Applicant respectfully submits that in light of the specification, one of ordinary skill in the art would understand the utilization and scope of the present invention, as required by M.P.E.P. § 2173.05(a). For example, regarding the phrase “an expander comprising an expandable annular tube coupled to the wafer chuck and configured to expand the wafer chuck without substantially expanding the wafer, such that an initial stress at an interface between the wafer and the wafer chuck is created,” as recited in claim 12, the specification describes that it is the wafer chuck that is expanded and not the wafer. For example, para. [0036] of the originally filed specification describes (emphasis added):

[0036] In step 104, the wafer chuck is uniformly expanded. This creates an initial stress on the interface between the wafer and the wafer chuck. **During exposure, due to heat transfer, the size of a wafer increases with respect to the wafer chuck. By expanding the wafer chuck prior to exposure, the size of the wafer is effectively decreased with respect to the chuck.** Therefore, the initial stress caused by wafer chuck expansion is opposite the stress caused by wafer expansion. The initial stress may be almost equal to the frictional force between the wafer and the wafer chuck. In this embodiment, additional stress would overcome the frictional force, and cause the wafer to slip prior to exposure. However, by keeping the initial stress just below the magnitude of the frictional force, slippage is prevented.

Accordingly, in view of the originally filed specification, Applicant submits that one of ordinary skill in the art would understand the utilization and scope of the claimed invention and that the term “substantially” as used in claim 12 is not indefinite. Accordingly, Applicant respectfully requests the reconsideration and withdrawal of the rejection of claim 12.

Claims 14 and 23 depend from claim 12. At least based on their dependency to claim 12, and further in view of their own features, claims 14 and 23 should be found allowable.

Claim 13 has been cancelled, as its subject matter has been incorporated into claim 12, making the rejection of this claim moot.

Reconsideration and withdrawal of the rejection is respectfully requested.

Rejections under 35 U.S.C. § 102

Claims 12-14 and 23 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent No. 6,375,176 to Getchel et al. (Getchel). Applicant respectfully traverses this rejection.

Amended claim 12 recites features which distinguish over the applied reference. For example, claim 12 recites, “an expander comprising an expandable annular tube coupled to the wafer chuck and configured to expand the wafer chuck without substantially expanding the wafer, such that an initial stress at an interface between the wafer and the wafer chuck is created.”

The Examiner states that Getchel, “expressly discloses in FIGs. 9A and 11A...an expander 580 coupled to the wafer chuck 533 and configured to expand the wafer chuck 533 (by heating) ‘without substantially expanding’ the wafer, such that an inherent initial

stress (due to differential thermal expansion between the wafer chuck and the wafer) at an interface between the wafer and the wafer chuck 533 is created.” (Office Action, p. 3). The Examiner also states, “Getchel expressly discloses in the same figures the expander 580 comprises an annular tube coupled to said wafer chuck 533.” (Office Action, p. 4). Applicant respectfully disagrees with the Examiner’s statements regarding Getchel and the allegation that Getchel anticipates at least the above-recited distinguishing features of claim 12.

Getchel describes in Figure 9A “a schematic partial cross-sectional view of another alternative embodiment of a workpiece chuck.” (Getchel, col. 14, lines 33-34). Getchel further describes, “The chuck **500** includes an upper portion **560** which includes a top assembly **530**, a guard layer **534** and a heat sink/heater assembly **532**.” (Getchel, col. 14, lines 35-37). Getchel further describes, “[t]he heat sink/heater assembly **532** includes a housing **533** which is made of a material such as cast aluminum. Within the housing are located heater coils for applying heat to the chuck **500** as well as **circulating tubes for circulating fluid throughout the heat sink/heater assembly 532 which can be used to cool the chuck 500.**” (Getchel, col. 15, lines 13-18) (emphasis added). Getchel further describes these circulating tubes using Figure 11A: “included in the assembly **532** is a tube **580** used to circulate fluid through the assembly **532**. In one embodiment, **the fluid enters the tube 580 at an inlet port 582 and circulates through the assembly 532 as shown. The fluid exits the assembly via an outlet port 584.**” (Getchel, col. 17, lines 61-65) (emphasis added).

Thus, in Getchel, item 580 is not an expander and is not used to expand the chuck by heating or any other method. In contrast, item 580 is a tube used to circulate fluid through the assembly in order to cool the chuck.

Thus, Getchel does not anticipate, at least, “an expander comprising an expandable annular tube coupled to the wafer chuck and configured to expand the wafer chuck without substantially expanding the wafer, such that an initial stress at an interface between the wafer and the wafer chuck is created,” as recited in claim 12.

For at least these reasons, claim 12 is patentable over Getchel.

Claims 14 and 23 depend from claim 12. Thus, at least based on their dependency to claim 12, and further in view of their own features, claims 14 and 23 are patentable over Getchel.

Claim 13 has been cancelled, as its subject matter has been incorporated into independent claim 12, making the rejection of this claim moot.

Reconsideration and withdrawal of the rejection is therefore respectfully requested.

Request for Reconsideration of Non-Elected Claims/Species Restriction

The Examiner states, “Claims 15-22 remain withdrawn from further consideration as being directed to a non-elected invention.” (Office Action, p. 2). Applicant asserts that at least claim 12 is a generic linking claim. This was discussed previously in the Reply to Requirement for Election of Species filed March 10, 2006. Applicants have cancelled claims 16-22 because of the amendment to claim 12. However, claim 12 still links claim 15. As claim 12 should now be found allowable,

claim 15 should be brought back into the application and found allowable, at least based on its dependency to claim 12. (See MPEP §809).

Reconsideration and withdrawal of the election of species requirement is respectfully requested.

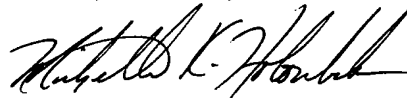
Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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Date: January 5, 2009

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